

Serial No. 09/765,014  
Amendment dated March 29, 2005  
Reply to Office action of September 29, 2004

**Amendments to the Drawings:**

The attached replacement drawing, FIG. 5, is amended to remove the reference number 115 and to change reference number 113 to 223.

The attached replacement drawing, FIG. 6, is amended to change the reference number corresponding to the Fine AGC from 609 to 613.

## **REMARKS**

In Item 1 of the Office Action mailed on September 29, 2004, the Examiner required that a new declaration be filed indicating the correct filing date. A new declaration is submitted herewith.

In Item 2 of the Office Action, the drawings were objected to for various informalities. With this Amendment, Figures 5 and 6 are amended. Also, various amendments are made to the specification, regarding, for example, reference numbers. Applicant submits that these changes satisfy all of the objections raised in Item 2. Applicant notes that the Examiner asserted that Figures 4 and 4a should be designated as prior art. Applicant respectfully submits that Figures 4 and 4a do not show only prior art. Therefore, these Figures are not amended herewith to include the prior art designation.

In Item 3 of the Office Action, the Examiner objected to the drawings for not showing all of the features of claims 3, 6, 10, 12, 14, 17, 21, 25, 34, 47 and 67. Claims 3, 10, 14, 21, 34 and 67 are cancelled herewith. Claims 6, 12, 17, 25, 47 and 79 are amended herewith. Applicant submits that these claim amendments and cancellations satisfy the objections to the drawings raised in Item 3. Applicant further submits that these claim amendments and cancellations overcome the 112 rejections raised in Items 7, 8 and 9 of the Office Action.

In Item 5 of the Office Action, claims 1, 11, 16, 20, 21, 28, 56 and 57 for various informalities. With this Amendment, claims 1, 11, 16, 20, 28 and 57 are amended and claims 21 and 56 are cancelled. Applicant submits that these changes satisfy the objections raised in Item 5.

In Item 11 of the Office Action, claims 32 and 37 are rejected under 35 U.S.C. 112. Claims 32 and 37 are amended herewith to overcome this rejection.

In Item 13 of the Office Action, claims 1, 2, 4, 7-9, 11, 13, 15, 18-20, 22-30, 32, 33, 35, 37-40, 42-44, 46-59, 61-63, 65, 66, 68, 70-73 and 75-80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ling et al. (WO 98/39871) in view of Uyematsu et al. Independent claims 1, 11, 28, 32, 38, 42, 57, 61, 65 and 71 are amended herewith to incorporate the limitations of dependent claims 2, 13, 29, 33, 39, 43, 58, 62, 66 and 72, respectively. In rejecting claims 2, 13, 29, 33, 39, 43, 58, 62, 66 and 67, the Examiner states that Ling discloses an equalizer on the transmit side that equalizes digital multilevel symbols to compensate for

characteristics of the optical channel (see, e.g., the discussion of claim 2 on page 8 of the Office Action). Applicant submits that Ling does not disclose an equalizer that equalizes digital multilevel symbols to compensate for characteristics of an *optical* channel. Applicant further submits that while Uyematsu may teach applying TCM to optical communications systems, the Examiner does not provide any motivation to combine Ling's equalization on the transmit side with the trellis coding for optical systems in Uyematsu. Applicant submits that there is no suggestion to combine the equalization on the transmit side of Ling with Uyematsu's trellis coding for optical systems. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references."<sup>1</sup> Applicant submits that there is no suggestion in either Ling or Uyematsu to combine Ling's equalization on the transmit side with the trellis coding for optical systems in Uyematsu. Therefore, Applicant submits that claims 1, 11, 28, 32, 38, 42, 57, 61, 65 and 71, and all claims depending therefrom, are not obvious in view of Ling and Uyematsu.

Independent claims 24, 46, 50 and 75 are amended herewith to incorporate the limitations of dependent claims 25, 47, 51 and 76, respectively. Also, independent claim 80 is amended herewith to include equalizing the digital signal on the receive end. In rejecting claims 25, 47, 51 and 76, the Examiner states that Ling discloses an equalizer on the receive side that equalizes the digital signal (see, e.g., the discussion of claim 25 on page 10 of the Office Action). Applicant submits that Ling does not disclose an equalizer on the receive side that equalizes a digital signal received from an *optical* channel. Applicant further submits that while Uyematsu may teach applying TCM to optical communications systems, the Examiner does not provide any motivation to combine Ling's equalization on the receive side with the trellis coding for optical systems in Uyematsu. Applicant submits that there is no suggestion in either Ling or Uyematsu to combine the equalization on the receive side from Ling with Uyematsu's trellis coding for optical systems. Therefore, Applicant submits that claims 24, 46, 50, 75 and 80, and all claims depending therefrom, are not obvious in view of Ling and Uyematsu.

In view of the foregoing, Applicant respectfully requests reconsideration and allowance

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<sup>1</sup> *Ex Parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985).

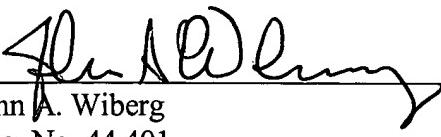
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of claims 1, 4-9, 11, 12, 15, 16, 18-20, 22-24, 26-28, 30-32, 35-38, 40-42, 44-46, 48-50, 52-55, 57, 59-61, 63-65, 68-71, 73-75 and 77-80.

The Commissioner is hereby authorized to charge additional fee(s) or credit overpayment(s) to the deposit account of McAndrews, Held & Malloy, Account No. 13-0017.

Date: March 29, 2005

Respectfully submitted,

  
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